

**What is claimed is:**

1. A method for producing a novel  $\beta$ -lactam antibiotic from a protoplast fusion strain, comprising culturing the protoplast fusion strain of *Penicillium chrysogenum* and *Cephalosporium acremonium* with the following medium for fermentative culture:

<u>Component</u>	<u>Amount (weigh %)</u>
Sucrose	12
Lard	0.1
Ammonium sulfate	2
Di-potassium hydrogen phosphate	0.05
Sodium citrate	0.4
Phenoxyacetic acid	1.12

thereafter, the ferment filtrate is isolated, lyophilized, added with acetone, stirred at room temperature for extraction, and filtered, the residues are repeatedly treated with the above steps for two times, the filtrates are collected and concentrated by decompression, the concentrate is filtered by a filter membrane of 0.22  $\mu\text{m}$ , and then analyzed by preparation type HPLC using 1% methanol as the mobile phase to obtain an active eluent, the eluent having the active antibiotics is isolated by the bacteriostatic test and the pitting test, and the isolated eluent is concentrated to result in the active substances.

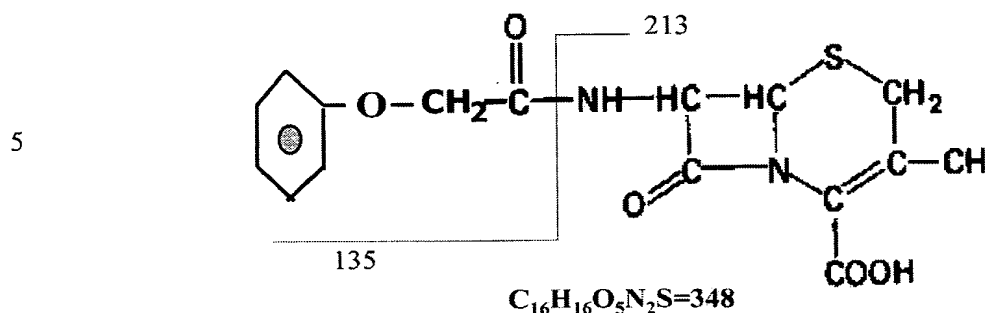
2. The method according to claim 1, wherein the lyophilized powder of the ferment filtrate is added with acetone, stirred at room temperature for extraction, and filtered, the residues are repeatedly treated with the above steps for two times, the filtrates are collected and concentrated by decompression, the concentrate is

filtered by a filter membrane of 0.22  $\mu\text{m}$ , and then analyzed by preparation type HPLC using 1% methanol as the mobile phase to obtain an active eluent, and the active compound (M-4) is isolated by the bacteriostatic test and the pitting test.

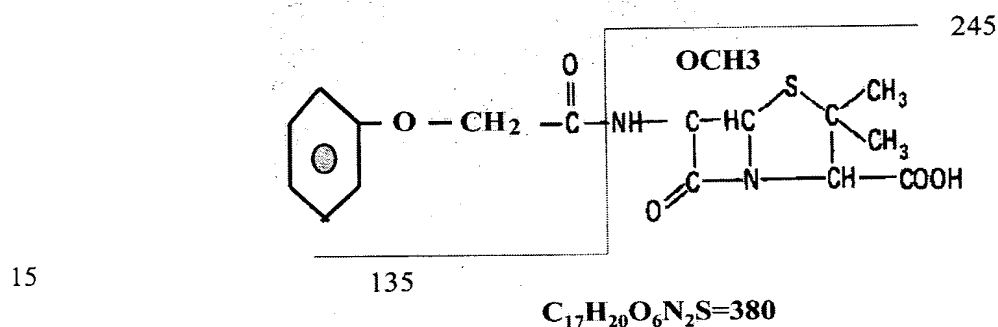
5 3. The method according to claim 1, wherein the product generated from acetone extraction and concentration is analyzed by HPLC using 30% acetonitrile as the mobile phase, the eluent corresponding to the retention time of the third peak in the spectrum is collected and concentrated, then isolated by preparation type HPLC using 30% methanol as the mobile phase, and the active compound  
10 (A-3-2) is isolated by the bacteriostatic test and the pitting test.

4. The method according to claim 1, wherein the lyophilized powder of the ferment filtrate is added with 70% acetone and 30% methanol, stirred at room temperature for extraction, and filtered, the residues are repeatedly treated with  
15 the above steps for two times, the filtrates are collected and concentrated by decompression, the concentrate is analyzed by preparation type HPLC using 30% methanol as the mobile phase, the active eluent is collected, concentrated, and analyzed by preparation type HPLC using 10% metanol as the mobile phase, the eluent corresponding to the retention time of the first (A) peak in the spectrum is  
20 collected, concentrated, and analyzed by preparation type HPLC using 10% methanol as the mobile phase, which results in an analysis spectrum having five peaks, the five eluents corresponding to the retention time of each of the five peaks in the spectrum are collected and concentrated, and the active compound (3-3-A-2) is isolated by the bacteriostatic test and the pitting test.

5. A novel  $\beta$ -lactam antibiotic (M-4), having the molecular formula of  $C_{16}H_{16}O_5N_2S$ , the molecular weight of 348, and the structural formula as follow:



6. A novel  $\beta$ -lactam antibiotic (A-3-2), having the molecular formula of  $C_{17}H_{20}O_6N_2S$ , the molecular weight of 380, and the structural formula as follow:



7. A novel  $\beta$ -lactam antibiotic (3-3-A-2), having the molecular formula of  $C_{18}H_{20}O_6N_2S$ , the molecular weight of 392, and the structural formula as follow:

